Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C.

In the matter of	)	
American Recovery and Reinvestment Act of	)	GN Docket No. 09-51
2009: A National Broadband Plan for	)	
Our Future, Notice of Inquiry	)	
	)	

Comments of One Economy Corporation

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One Economy Response to FCC: A National Broadband Plan for Our Future, Notice of Inquiry 6-8-09

One Economy Corporation appreciates the opportunity to respond to the United States Federal Communication Commission's request for comments regarding the development of a National Broadband Plan.

I. One Economy's Credentials

One Economy has been working for the past eight years to maximize the potential of technology to help low-income people improve their lives and enter the economic mainstream. Working on four continents, we use innovative approaches to deliver the power of technology and information to low-income people, connecting them to valuable tools for building better lives. We help bring broadband into the homes of low-income people, employ youth to train their community members to use technology effectively, and create public-purpose media that engages, informs and facilitates action.

Our efforts in bringing technology to low-income people are rooted in an approach of making broadband Available, Affordable, and Adoptable. This approach is a proven model we have used successfully time and time again to connect people to the digital age. One Economy connects people to affordable broadband access, while also ensuring that the technology is adopted through our youth Digital Connectors program and our public-purpose media properties. The principles of Availability, Affordability, and Adoptability not only form the basis of our work, but also the basis for our comments on the National Broadband Plan.

Community Connections

One Economy has worked with more than 50 communities around the world to build digital inclusion programs including free or low-cost Internet access, affordable computers, and building the capacity of local organizations that integrate technology into their work. From 2004 to 2006, we worked to change state affordable housing finance policies in 42 states to encourage the inclusion of broadband into the homes of low-income people. As a result of our efforts, more than 350,000 Americans now have affordable broadband in their homes.

Digital Connectors

One Economy's Digital Connectors® offers the knowledge and skills required for young people to be successful learners, workers and leaders in the 21st century. The Digital Connectors program is a youth development movement that shares best practices engaging teens and young adults, ages 14-21 in leadership development, media education, life skills management and community service. Through learning about their respective roles in their communities, thinking critically about how media affects their lives, producing their own media about pressing issues, and practicing team-building and leadership skills, youth are able to master technical competencies and practice lifelong principles that inspire educational advancement, workforce preparation and local or global citizenry. In total, 3,000 Digital Connectors have provided more than 56,000 hours of community service in more than 30 cities. These youth have also worked with over 15,000 families, helping them to adopt broadband technology in their respective communities.

Next Generation Public-Purpose Media

One Economy has created a network of public-purpose media properties that connect low-income people to resources and information about important issues like health, jobs, money, schools, and family. One Economy's multilingual websites, written at an accessible literacy level, combine compelling programming with localized, relevant information that helps people to take action. The Public Internet Channel (www.PIC.tv), One Economy's latest effort, is a multimedia experience that inspires and engages its viewers to improve their lives. Everything on the Public Internet Channel is relevant, current, accessible and, whenever possible, local—and always with a clearly-defined public purpose. Led by our signature website, the Beehive (www.theBeehive.org), these online tools have reached nearly 18 million people, many of whom are coming online for the first time.

II. Executive Summary

One Economy's Recommended Approach | Broadband with a Purpose and a Social Dividend

For the country to fully utilize broadband with a purpose, we must implement a national prescription with two key elements.

First is to mitigate barriers and problems, the second is to maximize opportunities so that the nation can move from the notion of digital divide to the reality of a digital opportunity.

In developing the National Broadband Plan (National Plan), the FCC should create "Broadband with a Purpose and a Social Dividend," a national plan that harnesses market forces to advance an important public purpose and serve other national priorities. Spectrum and Universal Service Fund subsidies are both valuable public resources, and the Commission has a responsibility to align these resources in a way that stimulates economic development, improves health outcomes and advances educational opportunities. Developing a National Plan geared to these public purposes should yield an important social dividend, benefiting underserved and unserved sectors. In the case of broadband, this social dividend must focus on bridging the digital divide for low-income individuals and those left out of the first wave of broadband Internet expansion and adoption.

The creation of the National Broadband Plan is a landmark opportunity for the United States to aim for real global leadership in broadband. While Organization for Economic Co-ordination and Development (OECD) and other broadband rankings necessarily loom large as the Commission undertakes this proceeding, we urge the Commission to be intentional about their goals and objectives and to consistently measure them against those benchmarks. Through a bold yet focused assortment of incentives and policy directives, and stimulating, but not usurping the private sector, the FCC can play a dramatic role in reshaping the United States as a global broadband leader and unleashing the unfulfilled promise of broadband in impacting employment, education, health, and GDP growth.

Broadband Deficit | Intentional Focus on Low-Income Populations

Due to barriers to broadband adoption, low-income individuals in underserved and unserved communities were most frequently left behind in the first wave of broadband deployment in the United States. For those with annual incomes under $20,000, just 25% access broadband in the home. Additionally, only 42% of those with a yearly income under $30,000 have access to broadband. In stark contrast to both these numbers, 82% of families earning more than $75,000

each year have accessed broadband in the home[1]. For 92% of Americans, one broadband option is available in addition to satellite, yet 57% have accessed broadband in the home[2,3]. To significantly increase broadband penetration in the U.S., this 35% gap between availability and adoption – the Broadband Deficit – must be overcome.

Free Market Principles | Focus on Supply AND Demand

Increasing the demand for broadband is as important, if not more so, than increasing the supply. We can overcome the 35% Broadband Deficit by concentrating on the three "A's":

- Availability (Supply) – Sufficient, desirable and competitive broadband options
- Affordability (Supply and Demand) – Where price is compatible with a person's ability to pay
- Adoption (Demand) – Sustainable usage and uptake of broadband as spurred by the following five elements:
    - Affordable broadband connections
    - Affordable hardware choices
    - Awareness of broadband options and benefits
    - Promotion of digital literacy
    - Prevalence of relevant content

Leapfrogging | Next- Generation Networks for Underserved and Unserved

Whenever possible, we should incentivize the installation of next-generation, high-speed networks at affordable prices in underserved and unserved communities. This infrastructure investment, a direct deposit on the potential social dividend, could have a profound impact on the delivery and utilization of applications for education, employment, healthcare and economic development. A 2009 study by Leonard Waverman, of the Haskayne School of Business at the University of Calgary, found that by adding ten more broadband lines per 100 individuals across the U.S. (~30 million new broadband lines) would raise U.S. GDP by over $110 billion

[1] Horrigan, John B. "Home Broadband Adoption 2008." Pew Internet & American Life Project. July 2008.
[2] National Cable & Telecommunications Association. "Moving the Needle on Broadband: Stimulus Strategies to Spur Adoption and Extend Access Across America." March 2009.
[3] Horrigan, John B. "Home Broadband Adoption 2008." Pew Internet & American Life Project. July 2008.

(Connectivity Scorecard 2009)[4]. Additionally, the Information Technology and Innovation Foundation (ITIF) forecasts expenditures on IT to have three to five times more impact on productivity than other capital expenditures. By "leapfrogging" older generation technologies and installing updated services for unserved and underserved populations, the Administration's National Plan can maximize the benefits of this National Strategy and set a model for the rest of the world.

The North Star | Government's Role as a Free Market Stimulus

The first role of government should be to establish national goals and interim benchmarks, setting the North Star for U.S. progress in broadband. We recommend the creation of a **Broadband Progress Board** to establish a five-year plan with transparent benchmarks and annual performance measurements. In addition to addressing speed, affordability, availability, and adoption, these benchmarks should also include demand principles, as outlined above, and national priorities such as:

- Healthcare: Tele-Health, Health record Management, and Aging in Place
- Education: E-Learning, Education in the Classroom, After-School, and In the Home
- Economic Development and Employment: Job Training and Re-Training, Career Coaching, and Job Growth
- Rural Economic Development
- Home-based Access to Broadband
- Digital Literacy

The government should establish a system of incentives and policy directives to increase supply and demand, promote public-private partnerships, drive innovation, and ensure affordability for low-income people. These incentives will be incorporated to spur private sector investment and personal adoption, and thereby stimulate the market and meet the public test of creating a social dividend. This approach, rather than burdensome regulation, should neither be a means nor an unintended consequence of this National Plan.

[4] Waverman, Leonard and Kalyan Dasgupta. "Connectivity Scorecard 2009." LECG/Nokia Siemens Networks. March 2009.

The government should also create a **National Emergency Network**, a meet-you-where-you-are digital framework and delivery system for natural and man-made emergencies. This Network must have an intentional focus on the poor, as they are most often deprived of information and resources that are critical in coping with an emergency, most evident in the events leading up to and the aftermath of Hurricane Katrina.

Civic Engagement | Gathering Opinions and Asset Mapping

A National Plan should fully consider the needs and opinions of unserved and underserved people and regularly gather their feedback through community assessment surveys and field hearings. This requires intentional government action so that individuals and communities left behind in the first wave of broadband deployment receive the attention and services that will catalyze adoption in their communities.

Policies and initiatives ought to enable individuals and communities to maximize the benefits of the Internet so that everyone can receive a social dividend. Broadband Availability, Affordability and Adoption are requisites for implementation. In turn, the capacity to use broadband and its tools will enhance civic engagement since so much public dialogue has shifted to the online space. Internet media engages users and provides them with the opportunity to learn about their government, increase their knowledge of the political structure and creates awareness of the most recent happenings of all levels of government.

III. Broadband Deficit | Intentional Focus on Low-Income Populations

Low-income individuals in underserved and unserved communities were left behind in the greatest numbers during the first wave of broadband deployment in the United States. Though 92% of Americans have access to at least one broadband option in addition to satellite[5], only 57% have adopted broadband[6]. This 35% gap between availability and adoption, the Broadband Deficit, must be overcome. We present the need case for broadband in two interrelated

[5] National Cable & Telecommunications Association. "Moving the Needle on Broadband: Stimulus Strategies to Spur Adoption and Extend Access Across America." March 2009.
[6] Horrigan, John B. "Home Broadband Adoption 2008." Pew Internet & American Life Project. July 2008.

categories: 1) major barriers that must be mitigated and 2) broadband opportunities that must be maximized.

Major Barriers to Broadband Adoption

The following barriers to broadband adoption require mitigation:

- *Content* - Lack of relevant, culturally appropriate content. As the Pew Internet & American Life Project's July 2008 report on Home Broadband Adoption ("Pew Report") data shows, one of the top reasons why people are not online is the lack of culturally relevant content[7]. Educational information available on the Internet is almost always written in English. A report entitled "Latinos and Information Technology: The Promise and the Challenge" emphasizes that websites on the Internet still fail to translate their content from English to Spanish and also fail to provide the content that is most important to the communities they serve.[8] This condition contributes to the fact that a significant number of non-English speaking Hispanics do not utilize the Internet, "78% of Latinos who are English-dominant and 76% of bilingual Latinos use the Internet, compared with 32% of Spanish-dominant Hispanic adults."[9]

  In addition, the content found on the Internet is not accessible to low-income families and individuals. "Online Content for Low-Income and Underserved Americans: The Digital Divide's New Frontier", looked at the extent to which the Internet offers resources for the 50 million Americans with low-incomes and low literacy or language skills. The report found that the content available through the Internet does not meet the needs of this underserved population.[10]

- *Cost* - High cost of broadband and hardware. Only 35% of homes with less than $50,000 in annual income have broadband, while 76% of households earning more than $50,000 per year are connected. One Economy has been working with the Baltimore Housing

[7] Id.
[8] "Latinos and Information Technology" The Promise and the Challenge, Louis G. Tornatzky, P.H.D, Elsa E. Macias, PH.D, and Sara Jones, released 2002.
[9] Fox, Susannah. "Latinos Online." Pew Hispanic Center/Pew Internet & American Life Project. March 2007.
[10] **"**Online Content for Low-Income and Underserved Americans: An Issue Brief", http://www.edutopia.org/php/article.php?id=Art_996&key=188.

Authority to develop affordable broadband Internet access in new housing developments. This is an area where broadband connections have been available to the community at large, but there was a massive under-utilization of the technology. The main barrier to adoption was high cost and unused pipelines. It was not until One Economy worked with contractors to install a wide-range wireless system on a high-speed broadband line that the housing communities were able to afford access to broadband.

- *Capacity* - Lack of digital literacy or capacity. While many people understand the value in broadband and the information and resources it provides, they do not have the digital literacy to access the content and use it to improve their lives. According to a 2009 Pew Report, nearly one-fifth of non-broadband users stated usability issues as a barrier.[11]

- *Awareness* – Lack of knowledge of broadband benefits. The final barrier to broadband adoption is awareness. Far too many individuals are still unaware of the resources available to them with a broadband connection. Illustrating this assertion, a 2009 Pew Report demonstrates that 51% of non-broadband users cite relevance as a significant barrier to adoption.[12]

Underutilization of Broadband | Failure to Maximize the Full Benefits of Broadband

Unfortunately, the barriers discussed above have resulted in the underutilization of broadband and the failure to maximize its full benefits. The following areas in particular will continue to suffer if efforts are not made to encourage wide spread adoption of broadband:

- *Economic Development.* Broadband stimulates economic development by providing individuals and businesses with access to information and resources. For example, individuals can find a job, explore career development, and access educational

[11] Horrigan, John B. "Obama's Online Opportunities II." Pew Internet & American Life Project. January 2009.

[12] Horrigan, John B. "Obama's Online Opportunities II." Pew Internet & American Life Project. January 2009.

information online. Moreover, through the Internet, small businesses have the opportunity to connect to a larger customer base, allowing them to dramatically increase their sales.

- *Education.* According to Kirk Hart, et al., "[y]oung people who are able to use information technology skillfully will have more opportunities in the workforce. For example, of all Fortune 500 companies, 89% recruited for jobs on their company's web site, and 34% accepted only online applications." Access to online information also has a profound impact on students within the classroom, as well as at home. Today, the educational system has fully incorporated the Internet as an essential tool for academic success. A 2004 SBC Communications national survey found that approximately 60% of elementary school students and 80% of high school students use the Internet for school projects and that more than 65% of surveyed high school students have assignments requiring the use of the Internet at home. Furthermore, a 2006 study printed in the journal *Developmental Psychology* stated that "Children who used the Internet more had higher GPAs after 1 year and higher scores on standardized tests of reading achievement after 6 months than did children who used it less."[13]

  While technology has become an essential tool for research, we have seen that using technology deepens students' interest and engagement in academic learning. A model middle and high school social studies curriculum in New York incorporating new combinations of technology and content delivery resulted in higher student achievement on state standards—and overwhelmingly positive student ratings. Ninety-four percent of students found the project interesting and educationally relevant; 90% said they learned a great deal; and 75% said they learned more than they would have from an ordinary class[14]. Students taking the experimental course outperformed students in a traditional course on the same topic.

[13] Jackson, Linda A., Alexander von Eye, Frank A. Biocca, Gretchen Barbatsis, Yong Zhao, and Hiram E. Fitzgerald. "Does Home Internet Use Influence the Academic Performance of Low-Income Children?" Developmental Psychology, 42:3. 2006.

[14] Cable in the Classroom. "Local Technology-Rich Curriculum Model Succeeds at Boosting Academic Performance, Increasing Student and Teacher Engagement." June 2004.

- *Health*. According to Pew, "78% of home broadband users look online for health information…" and "75% of e-patients with chronic conditions say their last health search affected a decision about how to treat an illness or condition…"[15] Unfortunately, a quarter of people with a chronic disease are not using the Internet to find valuable information on how to manage their disease. Increasing broadband adoption will allow patients to fully maximize the potential of broadband to improve their health outcomes and also allow them to communicate more easily with care providers. Moreover, as a large percentage of the population reaches retirement age, our health system will be overburdened if technology and the Internet are not utilized to allow our seniors to "Age in Place". Moreover, with increased broadband adoption, tele-health and prescription management online will be more widespread, resulting in decreased health costs.

- *Civic Participation*. In the last decade, technology has fundamentally changed how people engage in civic life. Today, as never before, increasing numbers of people log onto the web to research candidates for political office, to find volunteer opportunities, or to email their local government agency. Unfortunately, many online civic engagement efforts are targeted to higher-income, higher-literacy individuals and fail to recognize the unique challenges which keep lower-income individuals from participating in civic life. According to results from the Pew Internet and American Life Project in December 2007, while 65% of Internet users contacted the government during 2007, only 36% of individuals without online access did the same. However, civic participation means more than contacting the government. The Internet also presents opportunities to read reviews of social service agencies, find government and nonprofit information and resources, and find information about community events and services. Political disengagement can be indicative of other types of disenfranchisement and isolation. One disturbing trend noted that, "The majority (58%) of African-American and Latino youth does not believe they can make a difference in their communities."[16] The loss of this commitment has disturbing repercussion for these individuals, who lose the benefits of community ties, and the sense of personal efficacy that comes from being

[15] Horrigan, John B. "Home Broadband Adoption 2008." Pew Internet & American Life Project. July 2008.
[16] *Civic Engagement Among Minority Youth*

involved civically, and for society as a whole, which loses the talents, the abilities and the diversity of voices of would-be community contributors.

- *Poverty Alleviation*. For a very long time, ideologies for fighting poverty have competed over best strategies and best tactics but despite their differences, each approach relies in part on the delivery of services and information to those designated as poor. Unfortunately, despite decades of investment and intervention, poverty alleviation is limited in its effectiveness because it is seemingly bound to outmoded approaches to delivering information and resources to the poor. This 20th Century approach to information and resource allocation is too easily constrained by the issues of space, place, time and even race. Information is delivered at a fixed time, in a fixed place, in a fixed language by social workers or other designated experts. Resources are delivered through complicated and fragmented government and nonprofit systems that are too often not responsive to the particular needs and aspirations of the low-income person. By using the Internet, we can overcome a substantial number of barriers that beset the existing systems which serve the poor. Today, the individual increasingly expects to have access to information on a 24/7 basis. No longer content to engage information "gatekeepers," individuals rich and poor expect businesses and to a lesser but growing extent-government and nonprofits to supply information on demand-unencumbered by the old dynamics of time, place, and space through the Internet.

IV. Free Market Principles | Focus on Supply AND Demand

To maximize the potential of broadband, the United States must focus on both supply AND demand. We define this supply – demand relationship in terms of the 3 "A's":

- Availability
- Affordability
- Adoption

Digital Ecosystem: A Guiding Framework for the "Three A's"

In the 21st century, broadband must be thought of as a 24/7 proposition. To achieve this goal, as a guiding principle of the National Plan, One Economy suggests the creation of a Digital

Ecosystem: a "meet you where you are" 24/7 interface comprised of the home, school, workplace, and community through the added feature of mobility.

The home must be at the center of this ecosystem. For a small business or 21st century employee with school-age children, working at home, at least part of the week, is no longer just a desirable option, but often a necessity. For a student, parental involvement is vital to a productive education. Broadband in schools, community centers and libraries enables the next generation of in-class technology and applications and is also key to this ecosystem and to creating a culture of positive broadband use.

America must make an affirmative decision to put the poor first in line for broadband when it thinks of creating a 21st century ecosystem. Emphasizing alternative means of broadband access over home usage will have the unintended consequence of depriving low-income Americans of the benefits of broadband where they need it the most – in the home. With the home at the center, important services such as telemedicine, job training, distance learning and basic education will benefit those most in need.

Availability | Supply

Making broadband nearly ubiquitous is a critical component of a National Plan. To achieve this, there must be sufficient and desirable broadband options from which the population can choose. In order to realize this initial goal, the stimulative properties of competition must be leveraged to spur innovation, the growth of next-generation networks, and a decrease in price. To this effect, it must be recognized that a corollary component to greater broadband penetration is a lower price per Mbps. For example, some EU countries offer broadband at lower prices than the United States due to pro-competitive policies[17]

To encourage this growth in competition and promotion of a healthy marketplace, we recommend that the FCC enact a technology-agnostic position. The FCC should also utilize incentives and policies to promote the growth of next generation networks and Leapfrogging

[17]Windhausen, John Jr. "A Plan to Extend Super-Fast Broadband Connections to All Americans." The Century Foundation.(January 2009).

(described below), and support public–private partnerships that support both supply and demand.

Affordability | Supply and Demand

To expand broadband penetration, we cannot look at price alone; we must also look at an individual's ability to pay for broadband. Thus, affordability is critical in determining whether broadband is within someone's grasp. When developing broadband maps, it is vital to include demographic characteristics that illuminate income and cost-of-living parameters to determine affordability. In order to achieve near-ubiquitous of broadband, we have to enact incentives and policies that lead to this level of affordability.

Secondly, affordability should not mean a reduction in the quality of service or the quality of content. To be affordable in the long run, programs should also provide a path for low-income populations to pay for broadband services over time. A detailed strategy for achieving affordability of such service and maximum utilization of broadband infrastructure and service to the public requires a long-term broadband plan. Elements that will improve the long-term affordability of broadband include:

- Digital literacy programs to train target populations in digital technology usage that promotes socio-economically productive uses and makes consumers aware of free broadband applications that can replace other expensive alternatives
- Relevant content and online applications to promote well-being
- Long-term reduction of costs for broadband, including innovations such as wireless mesh deployments that will drive down costs in rural areas while providing high quality service
- Private-sector competition in broadband provision
- Paths toward self-payment in pricing models for low-income users
- Micro-lending for hardware
- Rebalancing Universal Service Fund support and targeting Universal Services Administrative Company support for sustainable broadband hardware and service to lower-income communities

Adoption| Demand

President Obama's stated vision is for the United States to "lead the world in broadband penetration."[18] Realizing this vision and harnessing the economic, educational, civic engagement, and cultural benefits and opportunities that broadband provides will require a well-designed and well-executed broadband adoption program. As long as broadband is not adopted or the populace does not posses the digital literacy skills necessary to reap its benefits, availability and affordability will be of secondary importance. By crafting and implementing an effective National Plan emphasizing the value of adoption, the FCC will further digital opportunity for millions of Americans.

As the Pew Report showed, issues related to adoption, and not deployment, constitute the most significant barrier to low-income Americans using the Internet to improve their lives. The report also hinted at an alarming decline in broadband adoption by low income Americans, well before the economic decline that began in the last quarter of 2008. The report indicated that 25% of low-income Americans – those whose household incomes are $20,000 annually or less – reported having broadband at home in April 2008. This compares to the 28% figure reported in March 2007 among those living in households whose annual incomes are $20,000 or less. [19]

The Pew Report found that of all non-users and dial-up users, only 14% indicated that the lack of broadband availability was the reason that they did not have broadband at home. 18% of all non-broadband users and 35% of dial-up subscribers said that the price of broadband would need to fall in order to encourage them to switch to broadband service.[20] By contrast, 17% indicated that they faced non-price barriers (difficulty understanding, age, or disability) to obtaining broadband, and 51% stated in some fashion that broadband was not relevant to them. *In the aggregate, a remarkable 86% people who do not use broadband attributed their not using broadband at home to adoption barriers, not deployment programs.*

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[18] *See* Obama-Biden Technology Plan, *available at* *http://www.barackobama.com/issues/technology/#modern-communications* (last visited April 13, 2009).
[19] John B. Horrigan, *Obama's Online Opportunities II*, Washington, D.C.: Pew Internet & American Life Project, January 2009, *available at* www.pewinternet.org/~/media//Files/Reports/2009/PIP_Broadband%20Barriers.pdf
[20] *Id*.

Emphasizing broadband adoption programs is consistent with the Broadband Data Services Improvement Act enacted in 2008, which recognized that the "[c]ontinued progress in the deployment and adoption of broadband technology is vital to ensuring that our Nation remains competitive and continues to create business and job growth."[21] The legislation also underscored the importance of programs that increase adoption by authorizing the Secretary of Commerce to develop and implement statewide initiatives "to identify and track the availability and adoption of broadband services within each state."[22] The Act required eligible entities to "identify barriers to the adoption by individuals and businesses of broadband service and related information technology services…"[23] Emphasizing adoption, therefore, furthers aspirations that are already ensconced in federal law.

If we are to move the meter substantially and in a sustainable manner on broadband, an adoption strategy must accompany all deployment efforts. Broadband efforts should focus on both removing barriers to adoption and maximizing unique opportunities. Broadband adoption programs should include the following:

- **Affordable broadband connections** – Broadband Internet access must be made available at affordable price points for low-income populations. Price in and of itself is a limiting statistic that does not accurately reflect a person's ability to pay while affordability takes into account a person's socio-economic standing.
- **Affordable hardware choices** – Computers, mobile phones, and other broadband-related hardware options must also be made available at affordable price points – in some cases, using rebates or reductions. In other instances, the knowledge of affordable options will be sufficient, especially as the price for hardware, with the advent of netbooks and other light-weight options, has decreased. Given the proper information and affordable options, low-income people, like other sectors of the population, will act in their own best interests and save to make the hardware purchase.
- **Awareness of broadband options and benefits** – Outreach that is directly connected to increasing utilization of broadband by targeted populations.

[21] 47 U.S.C. § 1301(2).
[22] 47 U.S.C. § 1304(b)(1).
[23] 47 U.S.C. § 1304(e)(3).

- **Promotion of digital literacy** – Enhancing or developing the digital literacy skills low-income people need to use broadband technology effectively. Digital literacy programs include: training in how to obtain and use technology; knowledge about the broad range of relevant and useful information and resources that are available online, at no charge; and, awareness of online education and skill development programs provided by local governments, communities, and the private sector.
- **Relevant content** – Content that is relevant to specific user populations. For instance, low-income people may require targeted, local information on education, jobs and entrepreneurship, while Native Americans may require specific content relevant to Indian nations. Included among the many valuable and enjoyable aspects of broadband should be the provision of informative content that serves a public purpose. We call for a national investment in public-purpose media and content.

Market Forces

The role of a National Plan should be to incentivize private corporations and nonprofit organizations to deliver against the 3As and develop a regulatory framework that protects capital investment, encourages competition, and rewards innovation. However, government should not take an overly invasive or provisionary role, unless absolutely demanded due to a lack of involvement by the corporate and non-profit sectors. Our specific recommendations follow.

V. Leapfrogging | Next Generation Networks for Underserved and Unserved

The great promise of the National Broadband Plan opportunity is to reestablish the United States as a global leader in broadband policy and engagement. Central to this achievement is employing the practice of "leapfrogging," using next-generation technology in unserved and underserved locations to leap ahead of older technology. Japan, South Korea and Sweden have employed this strategy to advance their Internet, broadband, and wireless interests.[24]

[24] Ezell, Stephen, Robert Atkinson, Daniel Castro and George Ou. "The Need for Speed: The Importance of Next-Generation Broadband Networks." The Information Technology & Innovation Foundation. March 2009.

Leapfrogging allows us to selectively target communities that have been left out of the first wave of broadband activity. By promoting Next-Generation Networks in communities that market forces do not adequately support. Secondarily, it avoids wasting extensive capital expenses in communities where high-speed broadband has determined unworthy for expansion. Taken together, these forces, along with the enhanced speed and resulting online applications and content in employment, education, and health, will powerfully activate the Social Dividend discussed earlier in this document.

Whenever possible, we should incentivize the installation of next-generation, high-speed networks at affordable prices in underserved and unserved communities. This infrastructure investment is a direct deposit on the social dividend that we mentioned above and have a profound impact on the delivery and utilization of applications for education, employment, and health care. A 2009 study by Leonard Waverman of the Haskayne School of Business at the University of Calgary found that by adding 10 more broadband lines per 100 individuals across the U.S. (~30 million new broadband lines) would raise U.S. GDP by over $110 billion[25]. By making "Leapfrogging" for low-income households a national priority, we will maximize the benefits of this National Strategy and set a global precedent for proactive policy.

The following section delineates Next-Generation Networks, the target market selection and strategy for deployment. The incentives and policy directives that we recommend utilizing to accomplish the leapfrogging strategy are mentioned in the North Star section of this document.

Next-Generation Networks

Next-Generation Networks include high-speed, high-bandwidth networks such as fiber-to-the-home, Docsis 3.0, WiMax, and LTE. Which Next-Generation Network should be deployed is dependent on the geographic terrain, population density, network architecture, and other pertinent variables, but we should mandate and incentivize the deployment and adoption of Next Generation Networks in the target markets described below.

Unserved Communities

[25] Waverman, Leonard and Kalyan Dasgupta. "Connectivity Scorecard 2009." LECG/Nokia Siemens Networks. March 2009.

Unserved communities provide the first and most obvious source for leapfrogging. Unserved communities are geographic locations determined inadequate for broadband by the access players. Consequently, there will be little to no capital expense by the access players and little equipment to be scrapped if Next-Generation Networks are adopted.

Underserved Communities

Underserved communities feature inadequate supply and demand conditions. High-speed network providers, including fiber-to-the-home, have stayed away from these neighborhoods, and adoption goals have not been met. Public and affordable housing communities in urban areas, where population density makes the investment dollars per served individual quite low, are ideal places for leapfrogging, and the Social Dividend will be immense. The opportunity to overhaul dated networks in these communities is straight-forward, and the return on the government and social investment will be profound and tangible.

Migration Path

In some instances, immediate leapfrogging in unserved or underserved communities may not be advisable due to:

- Excessive capital commitment from incumbent players
- Recent migration to higher-speed options
- Difficult geographic terrain
- Extremely low population density

In these communities, adoption of existing solutions should be emphasized and a path to Next-Generation Networks should be clearly orated.

VI. The North Star | Government's Role as a Free Market Stimulus

The government's role is to create a broadband vision, for the country-- North Star that is compelling, simple and clear, inclusive and personal. This vision will drive those who work in the government to seek change in struggling sectors of the nation. In order to make it happen, the vision must be easy to adhere to and direct. A country as diverse as the United States requires a vision to which everyone can relate. Individuals should also be able to account for their

participation in the vision, recognizing their contributions to the whole initiative. The vision ought to stimulate and support the needs and potential of all people, particularly low-income and underserved individuals.

Government plays a unique role in setting a vision. This process includes national goals, encouraging investment in infrastructure, subsidizing desirable activities and tax credits, and policy initiatives that will be effective in stimulating broadband access and adoption.

Broadband Progress Board | Setting National Goals

The first role of government should be establishing national goals with interim benchmarks and annual performance measures, setting the North Star for our progress in broadband. We recommend the creation of a Broadband Progress Board to set a five-year plan with benchmarks and annual performance reviews. The Board should be chaired by the FCC and consist of or be advised by government agencies, key nonprofit organizations, and the private sector.

In addition to addressing speed, affordability, availability, and the five adoption principles discussed earlier in the document, we suggest the following national priorities also be included:

- Health Care: Tele-Health, Prescription Management, and Aging in Place
- Education: E-Learning, Education in the Classroom, and After-School Programs
- Economic Development and Employment: Job Training and Re-Training, Career Coaching, and Job Growth
- Rural Economic Growth
- Home-based Access

The Broadband Progress Board will monitor advancement towards national goals. Specific goals that should be met by 2013 include:

- Affordable broadband available to 100% of the country
- 50 Mbps for all Americans
- Ubiquity of online public-purpose content
- Availability of a fully digitized National Emergency Network
- All government services include a digital option in addition to other delivery mechanisms

- Mobile computing devices available to every student in every classroom

Encouraging Investment in Infrastructure

When new government projects are built, renovated, or reconstructed, broadband infrastructure should be installed. Examples of these policies should include, but are not limited to:

- Requiring all public and affordable housing to be wired or enabled for broadband
- Laying fiber whenever new roads are constructed or trenches are dug
- Requiring 100 Mbps or greater networks in any education institution, library or health facility
- Cross-pollinating with the smart grid in broadband assessment and deployment
- Encouraging investment in 4G network deployment
- Encouraging Research and Development into 5G and next-generation networks that will presuppose a global leadership position for the United States

Subsidizing Activities and Tax Credits

Modernizing the Universal Service Fund

The Telecommunications Act of 1996 mandated the creation of the Universal Service Fund (USF) as a mechanism for providing rural and underserved communities with the financial resources necessary to build and support essential telecommunications services. This program, which currently encompasses telephone service and dial-up Internet access, must be expanded to include broadband services. We recommend a comprehensive reform of the USF that would specifically mandate the creation of a fund that would ensure 100% broadband deployment to underserved and unserved areas.

Currently, the USF supports the Lifeline and Link Up programs. The former provides for the government subsidizing a portion of phone service, while the latter subsidizes a portion of the installation of phone lines. These programs ought to be repurposed into a subsidy for broadband hardware, connection and service. The parameters of the subsidy must meet the goal of applying affordability to all Americans. South Korea and Sweden have undertaken aggressive computer subsidy programs to meet citizen needs and cement their position at the

top of the OECD's broadband ranking. It is about time that the United States got out in front of the affordability problem as well.

The Universal Service Plan's High-Cost Fund is a separate section of the Lifeline and Link-up programs. This program targets areas and customers that do not have phone service or the wiring to have phone service due to the high expense of getting phone lines to them. Traditionally, this applies to remote rural areas and tribal lands.

Reformation of the USF's High-Cost Fund to include broadband access would be a simple step to reaching an almost entirely unserved population. Expanding the High-Cost fund to incorporate broadband connections would bring a new level of connectivity to areas traditionally left in near isolation. This is also an ideal application of the leapfrogging concept discussed earlier in these comments.

E-Rate Reform

The current E-Rate program provides significant and beneficial subsidies to schools and libraries for access to telecommunications. However, it does not include training for teachers, students or librarians on how best to utilize this essential access to new technologies. This training is necessary to maximize the potential benefit broadband technology can have in our educational system. E-Rate should also be expanded to healthcare institutions, other vital community organizations, and include speed mandates at greater than 100 Mbps.

Alteration to Capital Tax Depreciation

To encourage more corporate activity, the rate of tax depreciation of capital costs should be accelerated to account for the quick advancement of technology. When the tax depreciation structure was developed, it did not and could not predict the rapid technological advancements of the digital age.

Expand the New Market Tax Credit Program

Governmental programs throughout different federal agencies address specific parts of the issues encompassed in the National Plan. However, they are not run cohesively so as to establish a formidable governmental frontline to attack the issues of availability, accessibility

and adoption. Programs in the Departments of Housing and Urban Development, Health and Human Services, Energy, the Treasury and others should be restructure to develop unified projects between the agencies.

We recommend expanding the New Market Tax Credit (NMTC) program, which is part of the Department of the Treasury, to include broadband access. Doing so would be extremely beneficial to the low-income communities this program targets. Currently, the NMTC program permits taxpayers to receive a credit against federal income taxes for making qualified equity investments in designated Community Development Entities, which in turn must be used to provide investments in low-income communities. The expansion of this program to include broadband access in equitable housing investments and the additional fractural expense for broadband access points within these tax credit eligible housing investments, would have exponential economic effects.

Digital Literacy

South Korea, the leader among all OECD countries in broadband penetration and adoption, developed a Digital Opportunity and Promotion for Aging program with the purpose of promoting digital literacy and computer access. Its "Ten Million People Internet Education Project (2000-2002)" provided online training to about a quarter of their populace. Sweden, number six in the OECD ranking, used government-funded digital literacy programs for the SMB market, libraries and schools to address demand.[26] To meet our goals, the FCC must create a digital literacy fund, designed to promote online media literacy, youth technology ambassadors and SMB and community capacity building.

Broadband and Cell Tax Policy

Broadband and cellular tax policy has been particularly regressive towards low-income populations, leading to an affordability barrier. Sales tax, which can be considered regressive, currently averages 7%. However, mobile and broadband taxation runs even higher, from 11% to more than 20% in some states. We recommend a drastic reduction in all broadband and mobile

[26] Atkinson, Robert, Daniel Correa, Julie Hedlund. "Explaining International Broadband Leadership." The Information Technology and Innovation Foundation. May 2008 (20, 37).

taxes, as well as a cap on state excise taxes. For low-income populations, we recommend the elimination of the tax, in alignment with broadband as a public good. In the short term, we do support HR 1521, *The Cell Tax Fairness Act of 2009* which caps mobile taxation at a state level.

Policy Initiatives

National Emergency Network

We recommend the establishment of a National Emergency Network, a completely networked emergency system of emergency content, response, and communication for man-made and natural emergencies. The network should be multi-platformed to include computers, mobile devices and mobile access units. The system would alert individuals as to impending emergencies, preventative measures, recovery and assistance programs, and evacuation routes.

This would provide individuals with the ability to interactively access a range of different types of content, everything from engaging video content, as well as more interactive tools and information sources. This Network would both create original content to help citizens prepare for and manage their lives through a disaster or emergency, as well as aggregate information from across the spectrum of government, official disaster organizations, communities and even individuals to organize a marketplace of information.

Education

To effectively maximize the impact of the conjuncture between the National Broadband Plan and the Department of Education, for the purposes of advancing education, One Economy suggests the development of a National Education Database and an Online Education Channel. This, too, would allow parents and students across the country to access the necessary tools and information that will enhance education. For example, One Economy has developed a similar tool entitled at www.ZipRoad.org that helps individuals find education-related resources in their communities. By simply entering a zip code, individuals can find and share information about area schools, after-school tutoring classes, and other learning programs in their neighborhoods.

A vast majority of America's schools are failing to teach the skills and tools needed to succeed in today's 21st-century global economy. As more and more jobs require highly technical

backgrounds steeped in math and science, it is imperative that America's leaders provide every student with the tools to be competitive in the global economy. Therefore, One Economy proposes enactment of The Laptop Project. This initiative would: Modify the USF's E-Rate program to allow for federal funding to school districts that implement a one-to-one laptop program for students in grades 6 through 12; and provide Title I funding for teachers, students, and parents who receive training in technology-rich educational services and applications.

Healthcare

Broadband can also provide low-income people tools to improve their health. Chronic diseases affect millions of Americans and disproportionately impact low-income communities. Broadband can bring into homes the resources people need to handle the day-to-day management of a disease like diabetes – wherever they live. These tools can be accessed by people who may not be able to seek in-person assistance because of their location or the cost of these services.

It is widely recognized that America has a healthcare crisis in terms of cost, coverage, and, in some cases, care. One area of concern is the inefficient way the current system treats chronic illness and disease management. In order to help relieve this enormous financial burden on government and individuals, and to enhance care, One Economy calls for the creation of a Digital Disease Management Fund. This investment would give recipients of Medicare and Medicaid access to technological tools that would allow them to manage, monitor, and learn about their medical conditions. More specifically, the fund would expand Section 1915(c) of the Social Security Act to include the cost of digital medical monitoring devices and equipment as an acceptable Home and Community Based Services Waiver[27].

Costs can be reduced and quality of care enhanced when individuals can age in place, as opposed to being moved to nursing care or other facilities. Emerging technologies now enable more elderly and disabled people to reside and receive care in their homes. To combat these rising costs, we recommend that the federal government foster the inclusion of medical devices in the home and amend affordable housing finance policies to enable broadband access and the affordable acquisition of these devices.

[27] Social Security Online. http://www.ssa.gov/OP_Home/ssact/title19/1915.htm.

Public-Purpose Media Funding

Television and radio were the delivery mechanisms of the past; today's youth have increasingly turned toward the Internet and other digital means. People between the ages of 18 and 27 get their information from the Internet more than any other source; people older than 52 turn to television.[28] Acknowledging this trend in media consumption means that we must alter our media funding mechanisms and framework. Currently, there are large allotments for television such as PBS and radio, as NPR. We need to mandate similar, if not greater, funding toward online public-purpose media. Additionally, we need to revisit the framework to increase the creation and distribution of online public purpose media. Content must be created in multiple languages and be accessible to multiple literary levels and pass the test of providing life-sustaining and life-enhancing resources. Public-purpose media content must inform, engage and facilitate action, making things easier for the average American

VII. Community Participation | Gathering Opinions and Engaging the Local Population

Community Assessment Surveys and Field Hearings

Providing communities with technology does not guarantee success on its own; people must feel a sense of ownership over that technology to maximize the benefits that they receive from it. With this philosophy in mind, One Economy has produced public-purpose media projects around the world with an intensive stakeholder engagement process aimed at building consensus in the target communities, developing relationships with local NGOs and other partners, and identifying the key developmental issues that technology solutions should address.

To encourage community participation, we recommend that the FCC take create a grassroots, bottom-up assessment that facilitates a participatory process, including community meetings, focus groups, and household surveys to ensure the maximum participation among a wide cross-section of the United States. To ensure activities are community-driven, a local coordinator should work with community-based organizations to identify the primary issues and concerns that the community portal will address. Building consensus among all stakeholders on the scope

[28] Forrester Research, Inc. "Northern American Technographics Benchmark Survey, 2007"

and scale of the effort, as well as the pressing community development issues, is instrumental in creating local community broadband.

We recommend the inclusion of a capacity-building program for local NGOs to facilitate their contribution of local content, digital literacy programs, adoption initiatives, and training programs for technology center managers.

Through community assessment surveys and regular field hearings, the government can assess several questions: What is important to the local community? How will they use technology? What do the people of this community care about? How much are they spending? How can this national plan be implemented to meet the needs of the local community?

Civic Engagement

Broadband Internet access has an amazing capacity for advancing civic participation. In the 2008 presidential election debates, Youtube became an engaging way for citizens to submit video questions to the Presidential candidates. Furthermore, nearly 65% of Internet users are using digital technologies for political engagement[29]. After winning the election, President Obama began posting his weekly addresses on Youtube. This content is difficult and time-consuming to access with anything slower than a broadband Internet connection. In the Pew Study, it was reported that only 29% of those using dial-up modems accessed sites such as Youtube, whereas between 60-70% of those using broadband or WiFi connections accessed the site. One Economy also has developed 247 Townhall (http://www.247townhall.org/) to provide a forum for discussion and debate surrounding events affecting local and global communities.

This new media is an art form that can be used to engage citizens from across the nation and bring them together to better understand their government and how to interact with it. It is through this type of instant access to information and discussion that the citizenry can become more informed, more thoughtful, and more engaged in the governmental process.

Broadband access also allows amateur content creation and distribution like never before. Now, anyone with an idea and a broadband connection can share their creative expression with

[29] Fox, Susannah. "The Engaged E-Patient Population." Pew Internet & American Life Project. August 2008.

anyone who would like to see it. Although such amateur creation is not always the most entertaining or constructive content, it allows for a freedom of expression and a freedom of information that can only be accessed though a broadband connection.

We recommend that the FCC leverage public purpose media as a tool for civic engagement. This recommendation includes increasing funding and frameworks to increase the creation and distribution of online civic engagement tools, as described in the previous section. We also recommend that all government agencies open their APIs to public purpose media and create a plan, to reviewed by the Broadband Progress Board, to increase online civic engagement with their department.

Mapping Strategies: Subscribership Data and Mapping

The FCC should create a Broadband Information Service: a transparent, expansive and intentional approach to broadband mapping. The mapping data should meet the objective of the Broadband Progress Board to monitor annual performance measures and long-range benchmarks in addition to spotting gaps in service provision and adoption strategies. To meet this goal, the map must be national in scope, with deeper dives into states, regions, neighborhoods and census blocks. Heterogeneous state-by-state information would fail to meet the data needs of the Broadband Progress Board, though states should play a significant role in gathering data and assessing groups.

The Three "A's" must be applied to all mapping efforts. Adoption information, as discussed above, should be gathered, displayed, and acted upon in the broadband mapping process. All mapping information on digital literacy, appropriate content and awareness of the benefits of broadband is essential data. Information about affordability—not merely price—must be collected.

Additionally, we should also encourage public input to fill in information gaps, elevate problems, and point to unserved and underserved communities. Data collection at the local level is an ideal youth employment activity, and could leverage such sources as One Economy's Digital Connectors.

Importantly, broadband mapping is a public resource and must be treated as such. The user interface must be accessible by and useful to private corporations, nonprofits, policymakers and the public. It must be transparent with data sources flagged and holes in the data understood.

VIII. Conclusion

In conclusion, the United States has a grand opportunity to realize the benefits of broadband to improve lives. For this to happen, government must assume the role of facilitator, investor, enabler, as well as regulator. If guided by the universal principle of public purpose, then the interests of many will be fulfilled. As with all interventions in the marketplace, government must remember that it cannot, and should not, act alone, and that it is the ultimate steward of the public's trust. Perhaps the grandest opportunity of all is to maximize the potential of broadband to help people join the economic mainstream and improve their lives. With both the byproduct and cause of poverty being economic and social isolation, broadband technologies offer us unprecedented means to end such isolation. The ultimate public purpose is to deliver such a social dividend.